C++ ASSIGNMENT

1.Ques :Write a program to calculate the sum of odd numbers between a and b (both inclusive) using recursion.

Ans:

```
#include<iostream>
using namespace std;
int oddsum(int sum,int a,int b){
	if(a>b){
		return sum;
	}
	if(a%2==1){
		sum+=a;
		return oddsum(sum,a+1,b);
	}
	else return oddsum(sum,a+1,b);
	return -1;
}
int main(){
	int a,b;
	cin>>a>>b;
	cout<<oddsum(0,a,b);
}
```

2.Ques :Calculate the number of ways in which a person can climb n stairs if he can take exactly 1, 2 or 3 steps at each level.

Ans:

```
#include<iostream>
using namespace std;
int findNumberOfWays(int n) {
if(n < 0) return 0;
```

```
if(n == 0)return 1;
return findNumberOfWays(n-1) + findNumberOfWays(n-2) +
findNumberOfWays(n-3);
}
int main() {
int n;
cin >> n;
cout << findNumberOfWays(n) << endl;
return 0;
}
```

3.Ques :Given a positive integer, return true if it is a power of 2.

Ans:

```
#include<iostream>
using namespace std;
bool powertwo(int a){
        if(a==1) return true;
        if(a%2==0) return powertwo(a/2);
        return false;
}
int main(){
        int a;
        cin>>a;
        if(powertwo(a)) cout<<"YES";
        else cout<<"NO";
}
```